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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,197	07/22/2003	Damon D. Brink	157972-0004	1797

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EXAMINER

MILLER, BRIAN E

ART UNIT	PAPER NUMBER
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2627

MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/626,197

Applicant(s)

BRINK ET AL.

Examiner

Brian E. Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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Claims 1-11 are now pending.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/27/07 has been entered.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the second metal plating applied over the first metal plating wherein the first metal plating has a columnar structure, as recited in claim 8 (depending from 4), must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the

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drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 1 is objected to because of the following informalities: (a) claim 1, line 5 after "the outer surface" the following should be inserted "of the base metal"; (b) claim 1, line 6 (and similarly for line 7), the phrase "at least one surface" should be inserted between "the protrusion", for consistency. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. (a) Claim 1, line 3 it is not readily apparent whether the "and having an outer surface" pertains to the hub or the base metal. If to the hub, it would be misdescriptive since the "outer surface" of the hub would include the first metal plating layer, and the claim would be indefinite; (2) claim 1, lines 5-7 the language "being plated with a first metal plating that has a

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thickness...to twice the height of the protrusion.” is indefinite. The recited language does not make it clear whether this is a *variable* thickness layer between the two thicknesses, or that it is a *uniform* thickness layer in the given range. It is noted that if the metal plating would encompass “twice the height of the protrusion” that there would not be any protrusion present on the outer surface of the hub, as it would be completely covered over, further rendering the claim indefinite because the “outer surface” would not include a protrusion; (c) claim 1, line 4 it is not readily apparent whether the surface protrusion from the language “the hub having at least one surface protrusion protruding from the outer surface” is an additional structure provided on the base metal or is a structural quality of the base metal to begin with; (d) claims 8 & 9, reference to “columnar structure” is vague, as it is not readily apparent what physical structure this encompasses.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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8. Claims 1-9, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braunheim et al (US 6,754,044). In so far as the claims are definite and understood, Braunheim et al discloses a swage mount 17 for a disc drive suspension assembly (including at least elements 10, 20 as shown in FIG. 1), comprising: a flange 48/46; and a hub 52 made of a base metal extending from the flange 48/46 and having at least one surface protrusion (considered inherent to the hub material, e.g., stainless steel), at least an outer surface of the hub being plated with a first metal plating 80 (see col. 11, lines 15-27 & col. 17, lines 21-27, i.e., "other methods that result in surface hardening and/or protrusion formation...plating with a harder material." It is considered that this "plating means" would encompass a first, in so far as the structure has been specifically defined in the claim(s). It is noted that the plating/protrusions 80 cover only .5% to 15% of the outer surface of the base metal hub, so protrusions/surface roughness from the base metal would still be present on parts of the hub.

The limitations of claim 1 are encompassed by the teachings of Braunheim et al, as described above, however, further with respect to claim 1, Braunheim et al, is expressly silent as to the metal plating having a particular thickness, e.g., ranging from two fifths of the height of the protrusion to twice the height of the protrusion, and to the other thicknesses of the metal plating, as set forth by claims 5 thru 6; nor with respect to claim 2, wherein the surface roughness, Ra, of the first metal plating is at least 5% of the thickness of the first metal plating.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided such a relationship(s) to the microstructure of Braunheim. The motivation would have been: absent a showing of criticality and any unobvious or unexpected results, the relationship set forth in the claim would have resulted through the course of routine

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engineering optimization and experimentation. Additionally, the law is replete with cases in which the mere difference between the claimed invention and the prior art is some range, variable or other dimensional limitation within the claims, patentability cannot be found. It furthermore has been held in such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range(s); see *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990). Moreover, the instant disclosure does not set forth evidence ascribing unexpected results due to the claimed dimensions; see *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338 (Fed. Cir. 1984), which held that the dimensional limitations failed to point out a feature which performed and operated any differently from the prior art; and see *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), that holds determining optimal values of result effective variables would have involved only routine skill in the art.

With respect to claim 3, Braunheim et al is further considered to encompass wherein the first metal plating is harder than the base metal by an amount equal to or exceeding 5 Vickers hardness numbers (VHN), e.g., Braunheim et al is considered to teach the metal plating would be at least 20-50 hardness Vickers harder (see also col. 10, lines 47-49);

With respect to claim 4 and the application of a second metal plating over the first metal plating, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided a second subsequent metal plating(s) to the first metal plating. The motivation would have been: lacking any criticality or any unobvious or unexpected results, providing a second metal plating would have resulted through routine engineering optimization and experimentation, such that the effects of the first plating layer would be enhanced, as would

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have been realized and within the knowledge of a skilled artisan. See also *St. Regis Paper Co. v Bemis Co.* 193 USPQ 8 (7th Cir. 1977) with respect to using a duplication of components, e.g., layers in the instant application, for providing multiple or enhanced effects.

With respect to claims 9, 11 and the materials of the plating, e.g., nickel, while Braunheim et al does teach using carbides or nitrides for the swage mount area (see col. 11, lines 50-52), is silent as to the plating material, e.g., nickel. The Examiner maintains that at least nickel is a well known material for plating use (see Hagen USP 6,108,172), it would have been considered obvious to have utilized such material(s) on the swage mount of Braunheim et al, as a matter of design choice. Furthermore, it has been held to be within the knowledge of a skilled artisan to select a known material on the basis of its suitability for the intended use; see *In re Leshin*, 125 USPQ 416 (CCPA 1960) and *In re Aller*, 105 USPQ 233 (CCPA 1955), regarding these matters.

Allowable Subject Matter

9. Claim 10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

10. Applicant's arguments filed 2/27/07 have been fully considered but they are not persuasive.

A...After further review of the amended claims, substantial 112(2) rejections have been set forth.

It is the Examiner's position that because of these rejections, a proper understanding of

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applicant's invention is not possible. The Braunheim et al reference is applied to the claims in so far as the claims are definite and understood.

B...The Examiner has interpreted the Braunheim reference slightly different in the instant art rejection. The arguments are considered moot in view of this interpretation and the newly applied 112(2) rejections. The "plating" is considered to encompass the protrusions 80 in Braunheim that is provided over the base metal considered to inherently include a surface roughness having minute protrusions, as all surfaces do.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian E. Miller whose telephone number is (571) 272-7578. The examiner can normally be reached on M-TH 6:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

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Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "B. Miller", with a stylized flourish at the end.

Brian E. Miller
Primary Examiner
Art Unit 2627

BEM
May 9, 2007